



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,998	09/18/2003	Takahiro Matsumoto	1232-5156	4610
27123	7590	06/15/2006	EXAMINER	
MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			ALANKO, ANITA KAREN	
			ART UNIT	PAPER NUMBER
			1765	
DATE MAILED: 06/15/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n No.

10/664,998

Applicant(s)

MATSUMOTO ET AL.

Examiner

Anita K. Alanko

Art Unit

1765

-- The MAILING DATE of this communicati n appears on the cover sheet with the corresp ndence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 4/5/06 amdt.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 9-24 is/are pending in the application.  
4a) Of the above claim(s) 9-18 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 19-24 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 05 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

***Drawings***

The drawings were received on 4/5/06. These drawings are acceptable.

***Specification***

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the specification fails to explicitly disclose “selecting a segment from the plurality of segments based on the calculations corresponding to the plurality of segments; and finding position of the mark using the calculated position corresponding to the selected segment.”

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 19-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The new matter is the new claim limitation of “selecting a segment from the plurality of segments based on the calculations corresponding to the plurality of segments; and finding position of the mark using the calculated position corresponding to the selected segment.” The

specification describes averaging values (page 21, lines 17-20; page 36, lines 25-27) and determining valid lines (page 25, lines 19-23, page 31, lines 16-18), however there is no description of selecting a segment from a plurality of segments and then using that to determine the position.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 19-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 19, line 8, the phrase “selecting a segment” is unclear. Is the claim limited to selecting only one segment, or can more than one segment be selected?

Claims 20-24 fail to cure the indefiniteness of their base claim, and are therefore also rejected.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 19-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Magome et al (US 5,754,300).

Magome discloses a position detection method comprising:

detecting an image of the mark to obtain two-dimensional image information of the mark (from detector 9, position detection marks Fig.4a, Fig.4b);

calculating position of the mark with respect to each of a plurality of segments of the two-dimensional image information (see abstract), regions of the plurality of segments being different from each other in a second direction orthogonal to the first direction (Fig.4a,4b, the depth direction is orthogonal to the top surface of the marks);

selecting a segment based on calculations (using software to clip, col.9, lines 11-12, Fig.8c); and

finding position of the mark using the calculated position corresponding to the selected segment (see abstract).

Claims 19-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Irie et al (US 5,808,910).

Irie discloses a position detection method comprising:

detecting an image of the mark to obtain two-dimensional image information of the mark (Fig.2);

calculating position of the mark with respect to each of a plurality of segments of the two-dimensional image information (EGA calculating unit 62), regions of the plurality of segments being different from each other in a second direction orthogonal to the first direction (Fig.5B, marks have a depth which is orthogonal to the top surface);

selecting a segment from the plurality of segments based on the calculations corresponding to the plurality of segments (determining whether the peculiar shot should be included or not, col.3, lines 50-65); and

finding position of the mark using the calculated position corresponding to the selected segment (col.3, lines 64-65).

Claims 19-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishi (US 4,962,318).

Nishi discloses a position detection method comprising:

detecting an image of the mark to obtain two-dimensional image information of the mark (Fig.1A);

calculating position of the mark with respect to each of a plurality of segments of the two-dimensional image information (using global alignment, col.13, lines 4+), regions of the plurality of segments being different from each other in a second direction orthogonal to the first direction (Fig.4, marks have a depth which is orthogonal to the top surface);

selecting a segment based on calculations (slicing, Fig.7); and

finding position of the mark using the calculated position corresponding to the selected segment (using global alignment, col.13, lines 4+).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Magome et al (US 5,754,300), Irie et al (US 5,808,910) or Nishi (US 4,962,318).

As to claims 23-24, Magome, Irie and Nishi are directed to alignment marks, but do not explicitly cite overlay verification marks and finding overlap error. However, overlap verification marks are conventional. Therefore, it would have been obvious to one with ordinary skill in the art to use the methods of Magome, Irie or Nishi to finding overlap error with the use of overlay verification marks because such marks are conventional and useful to use to increase the final yield of products that have more than one layer of circuitry.

### ***Response to Amendment***

The objection to the specification is withdrawn since Fig.3 has been amended to be consistent with the specification. The replacement drawing is accepted.

The claim amendments use different terminology from the specification, and therefore the basis in the specification is not explicit, and gives rise to the 112, new matter rejection.

The claims remain rejected over Magome et al (US 5,754,300), Irie et al (US 5,808,910) or Nishi (US 4,962,318).

### ***Response to Arguments***

Applicant's arguments filed 4/5/06 have been fully considered but they are not persuasive. Applicant argues that Magome et al (US 5,754,300), Irie et al (US 5,808,910) or

---

Nishi (US 4,962,318) do not disclose the claim limitations. However, as broadly interpreted they do since they determine positions based on selected marks. Applicant argues that the marks are not orthogonal. This is not persuasive because the direction depth is orthogonal to the top surface, as broadly interpreted. Applicant argues about the specific methods that Magome, Irie or Nishi use. In response, the claims do not cite that these specific methods cannot be used. The claims broadly cite "calculations" which Magome, Irie and Nishi perform.

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.



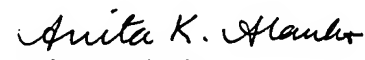
Art Unit: 1765

---

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anita K. Alanko whose telephone number is 571-272-1458. The examiner can normally be reached on Mon-Fri until 2:30 pm (Wed until 11:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 571-272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Anita K Alanko  
Primary Examiner  
Art Unit 1765